## REMARKS

Claims 1-23 were pending in the application prior to the present amendment.

Claim 24 has been added.

Thus, claim 1-24 will be pending after entry of the present amendment.

Claims 1-4, 6-12, 14-19 and 21-23 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over Baker et al. (USPN 6,219,070, referred to herein simply as "Baker") and further in view of Thayer (USPN 5,278,949). Applicant respectfully traverses these rejections based on the following reasoning.

Baker discloses a system and method for adjusting pixel parameters by subpixel positioning. In steps 658-670 of Figure 13a and in the passage starting at Col. 19, line 50 and continuing through Col. 20, line 21, Baker discloses a procedure for discovering a pixel position interior to a triangle and near to a starting vertex position. This procedure is illustrated in Figure 12 where the starting vertex 502' has coordinates (8,1) and nearby pixel position is at (12,4).

After discovering this pixel position near the starting vertex, Baker describes an edge walking procedure in steps 676-684 of Figure 13b and in the passage starting at Col. 20, line 37-46. The edge walking procedure is illustrated in Figure 12 by points (12,4), (12,8), (16,8) and (16,12).

Notice that Baker never teaches or suggests "storing final x,y values for each respective edge of the polygon, wherein, for each respective edge, said storing final x,y values comprises storing the interpolated x,y values for non-end points of the respective edge, and said storing final x,y values comprises storing the computed initial vertex x,y values for each of the end points of the respective edge" as recited in claim 1. The edge walking procedure described in steps 676-684 of Figure 13b does not allow for storing the computed initial vertex x,y values for each of the end points" as recited in claim 1.

Thayer discloses a polygon renderer which determines the coordinates of polygon edges to sub-pixel resolution in the x, y and z coordinate directions. In Figure 3 Thayer discloses rendering circuitry 308 which contains a edge stepper 308a. In the passage

starting at Col. 5, line 67 and extending through Col. 6, line 41, Thayer discloses:

"In particular, the present invention relates to a polygon rendering circuit <u>for determining the</u> <u>coordinates of points along respective edges of a polygon on each scan line covered by the</u> <u>polygon</u> and then filling display pixels of the polygon for display. Preferably, such a circuit in accordance with the invention is incorporated into a computer system and comprises means for providing the coordinates (x,y,z) of respective vertices of the polygon representing endpoints of edges of the polygon and the slopes M of lines connecting the respective vertices of the polygon to form the edges. These values are provided to <u>a polygon edge stepper which</u> <u>determines the coordinates (x,y,z) of the intersection of each of the edges with each scan line</u> <u>covered by the polygon</u>. Preferably, the polygon edge stepper starts from an end of the polygon at a first scan line and (1) determines the coordinates (x,y,z) of points on respective edges of the polygon which are in an adjacent scan line by incrementing the coordinate (y) perpendicular to the scan line by a value corresponding to one scan line. The edge stepper then (2) determines the coordinate (x) parallel to the scan line on each edge by adding the slope M for the corresponding edge to the x coordinate for the point of that edge on the previous scan line, and (3) <u>repeats determinations (1) and (2) for each scan line intersecting</u> <u>the respective edges until the coordinates (x,y) of points on the edges for the scan line at an</u> <u>end of at least one edge have been determined</u>. Steps (1)-(3) are similarly performed for determining the z coordinate until the coordinates (x,y,z) of points on the edges for the scan line at an end of at least one edge have been determined. <u>The edge stepper then (4) repeats</u> <u>determinations (1) through (3) for subsequent edges of the polygon, starting from the scan line</u> <u>after the scan line at the end of the at least one edge, until the coordinates (x,y,z) of all the</u> <u>intersections with the scan lines along each edge of the polygon have been determined.</u> Interpolating means are also provided for determining which display pixels are on an inside portion of the polygon with respect to the determined coordinates (x,y,z) of all edges of the polygon. Only those display pixels which are on the inside portion of the polygon are then filled for display." (*Underlining Added.*)

Notice that Thayer nowhere teaches or suggests "storing final x,y values for each respective edge of the polygon, wherein, for each respective edge, said storing final x,y values comprises storing the interpolated x,y values for non-end points of the respective edge, and <u>said storing final x,y values comprises storing the computed initial vertex x,y</u> <u>values for each of the end points of the respective edge</u>" as recited in claim 1.

Therefore, claim 1 and its dependents are patentably distinguished over Baker and Thayer. Claims 8, 16, 17 and 23 recite features similar to the features of claim 1, and thus, these claims and their dependents are patentably distinguished over Baker and Thayer based on similar reasoning.

New independent claim 24 recites "storing data including (a) one or more of the interpolated x,y positions and (b) an x,y position of the second vertex as defined by the geometry data instead of one of the interpolated x,y positions which is proximate to the second vertex ...". This feature is nowhere taught or suggested in either Bayer or Thayer. Thus, claim 24 is patentably distinguished over Bayer and Thayer.
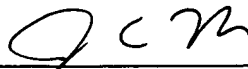
## CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5181-89200/JCH.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

☐ Request for Approval of Drawing Changes

☒ Notice of Change of Address

☐ Check in the amount of $        for fees (        ).

☐ Other:

Respectfully submitted,

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